

**REMARKS**

Reconsideration and withdrawal of the rejections of the claimed invention is respectfully requested in view of the amendments, remarks and enclosures herewith, which place the application in condition for allowance.

**I. STATUS OF CLAIMS AND FORMAL MATTERS**

Claims 1-17 are still pending in this application. No amendments have been made to the claims. No new matter has been added by this amendment.

It is submitted that the claims, herewith and as originally presented, are patentably distinct over the prior art cited in the Office Action, and that these claims were in full compliance with the requirements of 35 U.S.C. § 112. The amendments of the claims, as presented herein, are not made for purposes of patentability within the meaning of 35 U.S.C. §§§§ 101, 102, 103 or 112. Rather, these amendments and additions are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

**II. THE 35 U.S.C. 103(a) REJECTION HAS BEEN OVERCOME**

Claims 1-17 were rejected as allegedly being obvious by Gijutsu et al. JP 11-323258 in view of Sjøholm et al. (US 5,948,661 – “Sjøholm”). The applicants request reconsideration of this rejection for the following reasons.

The applicants maintain their positions from their previous response and would also like to comment on the “Response to Arguments” section in the final rejection.

It is well known that “[n]o *per se* rules of obviousness have been established by precedent, and reliance on any such rules that eliminate the need for *fact-specific analysis of claims* and prior art is legally incorrect and must cease, since use of *per se* rules in obviousness determination is inconsistent with 35 U.S.C. § 103, which entitles applicant to issuance of otherwise proper patent unless Patent and Trademark Office establishes that invention, as claimed in application, is obvious over cited prior art, based on specific comparison of that prior art with claim limitations.” *In re Ochiai*, 37 U.S.P.Q. 1128, (Fed. Cir. 1995) (emphasis added) .

However, the majority of the “Response” was merely a recitation of case law followed by a conclusion, i.e. there was no basis in fact which linked the proposition offered by the case law to the conclusion given in the Office Action. The applicants’ address the three conclusory statements below.

**1. “In this case, Gijutsu et al. and Sjøholm et al. are combinable as they are concerned with the same technical difficulty, namely increasing the oxidative properties of a peroxide through the use of peroxide enzyme catalyst”**

The key phrase in the passage from *In re Oetiker* cited in the Office Action is that the relationship of the prior art must be “reasonably pertinent to the particular problem with which the applicant was concerned” (emphasis added). The term “reasonably” is based on the person of ordinary skill in the art and is related to the problem the applicant was trying to solve.

Whereas Gijutsu is described in the Office Action as being directed toward a process of preparing phenolic polymer via polymerization of phenolic monomers having unsaturated aliphatic side chains in the presence of a peroxidase, Sjøholm is not directed on any level to the invention of Gijutsu; Sjøholm is directed toward novel peroxidases and enhance bleaching methods (described further in paragraph 2. below).

Whereas Gijutsu is concerned with the problem of forming phenolic polymer via polymerization in the presence of a peroxidase, Gijutsu does not refer to methods of enhancing the oxidative effects of the peroxidase via the use of an appropriate substrate (i.e. a phenothiazine derivative in the applicants’ claimed invention).

Moreover, Sjøholm is not solving the same problem of Gijutsu or the applicants in that Sjøholm’s peroxidase are being used to enhance the oxidative effects of hydrogen peroxide; there is no teaching for the enhancement of the oxidative effects of peroxidase or for the production of phenolic polymer.

**2. “In this case, the motivation to combine the references, as Sjøholm et al. suggests, is to increase the oxidative properties of the peroxide, thereby increasing the effectiveness of the catalyst (col. 4, lines 1-15)”**

The applicants finds no factual basis that this passage supports the Examiner’s conclusion. The passage referred from Sjøholm in statement above is reproduced below:

“For use of the present peroxidase **for bleaching purposes**, it has been found that the addition of another oxidizable substrate (for the peroxidase of the invention) at the beginning or during the washing and/or rinsing process may enhance the bleaching effect of the peroxidase employed.

This is thought to be ascribable to the formation of radicals or other oxidized states of this substrate which participate in the bleaching or other modification of the coloured substance.

Examples of such oxidizable substrates are organic compounds such as phenolic compounds, e.g. p-hydroxybenzenesulfonate and 10-propionic acid phenothiazine and other phenothiazines and phenoxazines and derivatives thereof as described in WO 94/12621. The amount of oxidizable substrate corresponds to a concentration in the wash liquor of between 0.1 µM and 100 µM.” (emphasis added)

That this passage within Sjøholm is directed toward a bleaching process is not surprising as it was previously noted that Sjøholm is directed to novel peroxidases and the use of these peroxidases for the purposes of bleaching.

Sjøholm describes early on in their specification that “[i]t has been found that peroxidases, utilizing hydrogen peroxide as substrate, are able to enhance the bleaching effect of hydrogen peroxide during washing.” (see col. 1, lines 22-24), i.e. the peroxidase is enhancing the oxidative properties of the *hydrogen peroxide*; Sjøholm neither teaches or suggests anything which enhances the oxidative properties of the peroxidase itself.

**3. “In order to show unexpected results, applicant must provide a showing the result is unexpected, not merely superior. There is nothing of record to show the unexpected nature of the result.”**

No case law was cited for the first sentence of this conclusion which is not surprising because the statement is incorrect (see e.g. MPEP 716.02(a) – “Superiority of a Property Shared with the Prior Art is Evidence of Nonobviousness”).

As for the second statement of the conclusion, this is in error as the applicants have provided evidence on the record of unexpected results (see e.g. the results in Table 3). The claims use a phenothiazine derivative substituted with an alkyl group or alkyl carbonic acid as a mediator.

As can be seen in Table 3, phenothiazine as mediator resulted in **0% yield**, whereas ethylphenothiazine resulted in **42% yield** and phenothiazine-10-propionic acid resulted in **65% yield**. One of ordinary skill in the art would have found that a derivative of compound which resulted in significant yield whereas the compound itself to have NO yield to be an unexpected result.

If the Examiner has factual evidence which negated these results, it has never been offered into the record.

Lastly, as the applicants' previous response was addressed in a separate section, i.e. "Response to Arguments" and the original rejection appeared to be merely a cut and paste of the original rejection aside from accounting for the newly added claims, it is reminded that when a reasonable rebuttal, whether buttressed by experiment, prior art references, or argument, *the entire merits of the matter are to be reweighed*. *In re Hedges*, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986).<sup>1</sup>

While the applicants would argue that a *prima facie* case of obviousness was never established, it certainly was not established (or re-established depending on your point of view) after entry of the applicants response to the non-final rejection and/or after the entry of this response to the final rejection.

For these reasons, the applicants' claimed invention is not obvious over the combination of Gijutsu and Sjøholm.

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<sup>1</sup> "When *prima facie* obviousness is established and evidence is submitted in rebuttal, the decision-maker *must start over*. . . . *An earlier decision should not*, as it was here, be considered as set in concrete, and applicant's rebuttal evidence then *be evaluated only on its knockdown ability*. Analytical fixation on an earlier decision can tend to provide that decision with an undeservedly broadened umbrella effect. *Prima facie* obviousness is a legal conclusion, not a fact. Facts established by rebuttal evidence must be evaluated along with the facts on which the earlier conclusion was reached, *not against the conclusion itself*. . . . [A] final finding of obviousness may of course be reached, but such finding will rest upon evaluation of all facts in evidence, uninfluenced by any earlier conclusion reached by an earlier board upon a different record." *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). (emphasis added)

"When an applicant submits evidence, whether in the specification as originally filed or in reply to a rejection, *the examiner must reconsider the patentability of the claimed invention*. The decision on patentability must be made based upon consideration of all the evidence, including the evidence submitted by the examiner and the evidence submitted by the applicant. A decision to make or maintain a rejection in the face of all the evidence must show that it was based on the *totality of the evidence*. Facts established by rebuttal evidence must be evaluated along with the facts on which the conclusion of obviousness was reached, not against the conclusion itself." *In re Eli Lilly & Co.*, 902 F.2d 943, 14 USPQ2d 1741 (Fed. Cir. 1990). (emphasis added)

**CONCLUSION**

In view of the remarks and amendments herewith, the application is believed to be in condition for allowance. Favorable reconsideration of the application and prompt issuance of a Notice of Allowance are earnestly solicited. The undersigned looks forward to hearing favorably from the Examiner at an early date, and, the Examiner is invited to telephonically contact the undersigned to advance prosecution.

Respectfully submitted,  
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